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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/505,775	02/17/2000	Kenji Oi	1076.1053/JDH	6984

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EXAMINER
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SEFCHECK, GREGORY B

ART UNIT	PAPER NUMBER
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2616

DATE MAILED: 07/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/505,775	OI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Gregory B. Sefcheck	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5,9,15 and 18-22 is/are allowed.
- 6) ☒ Claim(s) 1-4,6-8,10-14,16,17 and 23-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

- Applicant's Request for Continued Examination filed 5/12/2006 is acknowledged.
- Claims 1, 10-13, 16, 23, and 24 have been amended.
- Claims 1-26 remain pending.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 4, 6, 7, 10, 12, 16, 17, and 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Limb in view of Tateyama (US006018816A).

- Regarding claims 1, 6, 10, 16, and 23,

Limb discloses a method in a communications system that has stations that are connected by lines. Referring to Fig. 1, the stations are connected by two lines 10,11 (col. 5, lines 50-52; claim 1,23 - first node, second node, and a third node connected by a bus).

Frames are passed down the lines (col. 6, lines 19-21; claim 1,6,10,16,23 - transferring a write packet from the first node to the second node). Fig. 6 shows an example of a frame that is used in the system. The frame comprises two parts: a

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control field 20 and a data field 21. The data field receives data packets from the stations (col. 6, lines 45-48).

When a station receives a frame in which the data field is empty, it transmits a packet to that frame (col. 6, lines 26-28; claim 1,10,23 - storing data to be written in a data portion of a packet addressed to the third node in the data portion of the write packet at the second node).

The frame is then passed along the line with its busy bit set to indicate that its data field now contains data (claim 1,10,23 - transferring the write packet from the second node to the third node; claim 6,16 – data portion of packet may store data or be blank). Also, the present invention may be used in an arrangement in which data packets are passed only in one direction (col. 5, lines 12-14; claim 1,10,16,23 - bus but not connected in a ring form). It is inherent in Limb that there is an identifying circuit to recognize the busy bit indicating whether the data field is empty or not.

Limb shows that a station, such as a digital computer (processor), receives a frame and can determine if the data field is empty (claim 1,10,13,16,23,24 – determine whether received packet is write packet). However, Limb does not explicitly disclose the determination is made by a link layer processor. Furthermore, Limb does not explicitly disclose the nodes within an IEEE 1394 topology or connected in star form.

Tateyama discloses a processing system and method involving devices connected via a 1394 serial bus for processing received data packets with blank data portions (Abstract; claim 1,10,16,23 – nodes constitute an IEEE 1394 topology). As

shown by Limb, the system and method are applicable to any system in which the plurality of stations are interconnected by a pair of signal paths (Col. 9, lines 54-56). Therefore, it follows that Limb would be applicable to any particular nodal configuration within any system interconnected by a pair of signal paths, including nodes interconnected in star form within the IEEE 1394 network shown by Tateyama (claim 23,24 – nodes connected in star form). Furthermore, Tateyama discloses the system having multiple processing layers, where the link layer is responsible for addressing, data checking, packet transmission/reception and cycle control for transfer (Fig. 2; Col. 13, lines 15-19; claim 1,10,13,16,23,24 – link layer processor determines received packet as write packet).

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the method and system of Limb using nodes constituting an IEEE 1394 topology, as shown by Tateyama, as the IEEE 1394 is a standard bus topology/type widely used in the art, enabling standardized communication and performance between the nodes of Limb. It would also be obvious to implement the determining of data frames being write frames in a link layer processor, as shown by Tateyama, since the link layer of the OSI protocol stack is responsible for performing such functions.

- Regarding claims 2 and 24,

Limb discloses a method in a communications system as shown above. As shown above, Limb discloses that the station loads a data into the frame when the data

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field of the frame is empty (col. 6, lines 26-28; claim 2,24 - wherein the write packet comprises a blank data portion for storing the data).

- Regarding claim 4,

Limb discloses a method in a communications system that covers all limitations of the parent claims. As shown above, the frame contains a control field and a data field. If the busy bit in the control field is set, then this indicates whether or not the data field is empty (col. 6, lines 21-24; claim 4 – header portion stores identification information indicating whether the data portion is blank).

- Regarding claim 7,

Limb discloses a method in a communications system that covers all limitations of the parent claims. Limb discloses where the frames are sent with each writing cycle (col. 6, lines 60-63; claim 7 - predetermined time periods).

- Regarding claim 12,

Limb discloses a method in a communications system that covers the similar limitations shown above in regards to claim 1. Limb shows that the data portion may be filled or empty based on the setting of the busy bit in the control portion of the packet (col. 6, lines 45-53).

Therefore, a packet received at a second node from a first node that is destined for a third node would be temporarily retained and rewritten in a packet transmitted to

the third node from the second node, as shown in Fig. 1 (claim 12 – temporarily retaining and rewriting data received from the first node and addressed to the third node).

- Regarding claim 17,

Limb discloses a method in a communications system that covers all limitations of the parent claims. As shown above, the frame contains a control field and a data field. If the busy bit in the control field is set, then this indicates whether or not the data field is empty or not (col. 6, lines 21-24; claim 17 – identification information indicating whether the data portion is blank).

- Regarding claims 25 and 26,

Limb discloses a method in a communications system that covers all limitations of the parent claims.

Limb does not expressly disclose where the data is image data.

Tateyama discloses a processing system and method involving devices connected via a 1394 serial bus for processing data including image data.

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the method and system of Limb for processing image data, or any other common type of data that is communicated between devices. One would have been motivated to send image data because if that was the type of data that needed to be transferred, then it would be efficient to transfer it using the method taught in Limb.

3. Claims 3, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Limb in view of Tateyama further in view of Perlman (US 5,398,242).

- Regarding claim 3 and 13,

Limb discloses a method in a communications system that covers all limitations of the parent claims.

Limb does not expressly disclose where the first node has information indicating a plurality of second nodes substantially simultaneously send packets to a plurality of third nodes.

Perlman discloses broadcasting an explorer packet, which transmit simultaneously from a plurality of second stations to a plurality of third stations. (col. 6, lines 24-62 and Fig. 10C; col. 22, lines 11-61; claim 3,13 – information indicating a plurality of second nodes substantially simultaneously send packets to a plurality of third nodes).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Limb in order to send many write packets simultaneously like the broadcast packets in Perlman. One would have been motivated to do this because it would have been more efficient to transfer write packets simultaneously if all of the write packets were to carry similar information as similar speeds.



- Regarding claim 14,

Limb discloses a method in a communications system that covers all limitations of the parent claims.

As shown above, the frame contains a control field and a data field. If the busy bit in the control field is set, then this indicates whether or not the data field is empty or not (col. 6, lines 21-24; claim 14 – identification information indicating whether the data portion is blank).

4. Claims 8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Limb in view Tateyama further in view of Ching et al. (US 4,665,514), hereafter Ching.

- Regarding claims 8 and 11,

Limb discloses a method in a communications system that covers all limitations of the parent claims.

Limb does not expressly disclose padding the packets until they are to a fixed size.

Ching discloses padding to build a packet to 64 bits of data to make the data packet fixed size.

It would have been to one of ordinary skill in the art at the time of the invention to pad the packets until they were filled to capacity in Limb, as shown by Ching. One would have been motivated to do this because sending packets of a fixed length reduces the complexity of having to determine when a variable length packet ends.

***Allowable Subject Matter***

5. Claims 5, 9, 15, and 18-22 allowed.

***Response to Arguments***

6. Applicant's arguments filed 5/12/2006 have been fully considered but they are not persuasive.

- In the Remarks on pg. 10-11 of the Amendment, Applicant contends that the method and system of Limb is not applicable to an IEEE 1394 network because Limb is not explicitly disclosed in an IEEE 1394 network. Applicant further contends that a prima facie case is not met by the rejection because Limb was prior to adoption of IEEE 1394 and no evidence has been provided that one of ordinary skill in the art would be motivated to modify an older type of network standard to become a newer network standard.
- The Examiner respectfully disagrees. The application of Limb's disclosure to a network of a later-developed protocol-type that is different than explicitly disclosed by Limb is not improper. The prior art is replete with examples of applying prior art methods and systems, such as Limb, to newly developed standards, such as IEEE 1394, and this practice is well-known to one of ordinary skill in the art. Just one of many examples would be the migration and integration of POTS into next generation packet-

switched and wireless telephony systems. In addition to the obvious motivation of cost, where it is more cost-effective to find ways of integrating older technologies into newer technologies rather than starting anew with each new development, the underlying motivation for all such combinations is to utilize previous methodologies/systems and the advantages they present (in this case, the teachings of Limb) within the newly-developed infrastructure (in this case, the development of IEEE 1394 standard). As admitted by the Applicant on pg. 12 of the Remarks filed 10/31/2005, Limb discloses applicability to “any system in which a plurality of stations are interconnected by a pair of signal paths”, thereby providing further, explicit suggestion of applying the system and method of Limb to a range of network types, in addition to the motivation of knowledge generally available to one of ordinary skill in the art. As such, the combination of Limb with Tateyama illustrates how the advantages of Limb can be applied to the specific protocol-type network, IEEE 1394, disclosed by Tateyama.

- In the Remarks on pgs. 11-13 of the Amendment, Applicant contends that Limb’s write cycle frame does not properly meet the “write packet” claimed by Applicant. More specifically, Applicant contends that the write cycle frame shown in Limb cannot meet the claimed write packet because Limb does not differentiate what type of data packet is in the frame’s data field

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21. As such, Applicant contends that the claim limitations clarify two types of packets, a packet addressed to the third node and a write packet, that are not taught by Limb.

- The Examiner respectfully disagrees. As shown in the rejection, Limb discloses a station can determine whether a received frame is a "write" frame based on whether the data field of the frame is empty or not. When a frame is determined to be a write frame (when the data field is empty), the data portion of the frame may be used to transmit a data packet. Therefore, Limb does show a differentiation made between packets as well as showing two types of packets, both data- and non-data-carrying ("write") frames, thereby properly meeting the limitations of the claims.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory B. Sefcheck whose telephone number is 571-272-3098. The examiner can normally be reached on Monday-Friday, 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GBS *GBS*  
7-13-2006

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